

SEQUENCE LISTING

<110> LaRosa, Gregory J.
Horvath, Christopher
Newman, Walter
Jones, S. Tarran
O'Brien, Siobhan H.
O'Keefe, Theresa

<120> HUMANIZED ANTI-CCR2 ANTIBODIES AND
METHODS OF USE THEREFOR

<130> 1855.1052-028

<150> 09/497,625

<151> 2000-02-03

<150> 09/359,193

<151> 1999-07-22

<150> 09/121,781

<151> 1998-07-23

<160> 106

<170> FastSEQ for Windows Version 3.0

<210> 1

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<220>

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22

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22

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cgttc	65
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<223> Primer

<400> 8
gacgaccagc atgttgcc

18

<210> 9
<211> 112
<212> PRT
<213> Mus musculus

<400> 9
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Val Gly
1 5 10 15
His Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30
Asp Gly Lys Thr Phe Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
35 40 45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95
Thr His Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 10
<211> 117
<212> PRT
<213> Mus musculus

<400> 10
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Arg Ile Arg Thr Lys Asn Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Tyr Thr Ile Ser Arg Asp Asp Ser Glu Ser Met
65 70 75 80
Leu Phe Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met Tyr
85 90 95
Tyr Cys Val Thr Phe Tyr Gly Asn Gly Val Trp Gly Thr Gly Thr Thr
100 105 110
Val Thr Val Ser Ser
115

<210> 11
<211> 111
<212> PRT
<213> Homo sapiens

<400> 11
Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15

Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
				85					90					95	
Thr	His	Trp	Pro	Phe	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	
			100					105					110		

<210> 12
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 12

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
			20					25					30		
Asp	Gly	Lys	Thr	Phe	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly
				85					90					95	
Thr	His	Phe	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	Lys
			100					105					110		

<210> 13
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 13

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
			20					25					30		
Asp	Gly	Lys	Thr	Phe	Leu	Asn	Trp	Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80

Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly
			85					90						95	
Thr	His	Phe	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	Lys
			100				105						110		

<210> 14
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 14

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5				10						15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
			20					25					30		
Asp	Gly	Lys	Thr	Phe	Leu	Asn	Trp	Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly
				85					90					95	
Thr	His	Phe	Pro	Tyr	Thr	Phe	Gly	Gly	Gly	Thr	Arg	Leu	Glu	Ile	Lys
			100				105						110		

<210> 15
<211> 112
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 15

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5				10						15	
His	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
			20					25					30		
Asp	Gly	Lys	Thr	Phe	Leu	Asn	Trp	Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Trp	Gln	Gly
				85					90					95	
Thr	His	Phe	Pro	Tyr	Thr	Phe	Gly	Gly	Gly	Thr	Arg	Leu	Glu	Ile	Lys
			100				105						110		

<210> 16
<211> 119
<212> PRT
<213> Homo sapiens

<400> 16
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Ala
20 25 30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
50 55 60
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Asp Ser Leu Pro Pro His Arg Val Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 17
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 17
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Arg Thr Lys Asn Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Phe Tyr Gly Asn Gly Val Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser
115

<210> 18
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 18
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ala Tyr
20 25 30

Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Arg Thr Lys Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Phe Tyr Gly Asn Gly Val Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser
115

<210> 19
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 19
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Arg Ile Arg Thr Lys Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Tyr Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Phe Tyr Gly Asn Gly Val Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser
115

<210> 20
<211> 117
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized sequence

<400> 20
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Arg Ile Arg Thr Lys Asn Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60

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Ser Val Lys Asp Arg Tyr Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65          70          75          80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
          85          90          95
Tyr Cys Val Thr Phe Tyr Gly Asn Gly Val Trp Gly Gln Gly Thr Leu
          100          105          110
Val Thr Val Ser Ser
          115

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<210> 21
 <211> 100
 <212> PRT
 <213> Mus musculus

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<400> 21
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Val Gly
1          5          10          15
His Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
          20          25          30
Asp Gly Lys Thr Phe Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
          35          40          45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
          50          55          60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
          85          90          95
Thr His Phe Pro
          100

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<210> 22
 <211> 100
 <212> PRT
 <213> Mus musculus

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<400> 22
Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1          5          10          15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
          20          25          30
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
          35          40          45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
          50          55          60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
          85          90          95
Thr His Phe Pro
          100

```

<210> 23
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 23

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Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
 1          5          10          15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
          20          25          30
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
          35          40          45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
          50          55          60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Val Gln Gly
          85          90          95
Thr His Phe Pro
          100

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<210> 24
 <211> 100
 <212> PRT
 <213> Mus musculus

<220>
 <221> VARIANT
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 <223> Xaa = Any Amino Acid

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<400> 24
Asp Val Val Met Thr Gln Xaa Leu His Ser Leu Ser Val Thr Ile Gly
 1          5          10          15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
          20          25          30
Asn Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Val Gln Pro
          35          40          45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Tyr Ser Gly Val Pro
          50          55          60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Xaa Pro Glu Asp Leu Gly Val Tyr Xaa Cys Met Gln Asp
          85          90          95
Thr His Phe Pro
          100

```

<210> 25
 <211> 100
 <212> PRT
 <213> Mus musculus

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<400> 25
Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1          5          10          15
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
          20          25          30
Asn Gly Asn Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          35          40          45
Pro Lys Leu Leu Ile Tyr Arg Val Ser Asn Arg Phe Ser Gly Val Pro
          50          55          60

```

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Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70				75						80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Phe	Cys	Phe	Gln	Gly
				85					90					95	
Thr	His	Val	Pro												
			100												

<210> 26
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 26

Asp	Val	Val	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly
1				5					10					15	
Asp	Gln	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Ile	Val	His	Ser
		20						25					30		
Asn	Gly	Asn	Thr	Tyr	Leu	Glu	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Lys	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Leu	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70				75						80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys	Phe	Gln	Gly
				85					90					95	
Ser	His	Val	Pro												
			100												

<210> 27
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 27

Asp	Val	Val	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly
1				5					10					15	
Asp	Gln	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20						25					30		
Asn	Gly	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Lys	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70				75						80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Phe	Cys	Ser	Gln	Ser
				85					90					95	
Thr	His	Val	Pro												
			100												

<210> 28
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 28

Asp	Val	Leu	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly
1				5					10					15	

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```

Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
      20      25      30
Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
      35      40      45
Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
      50      55      60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
      65      70      75      80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
      85      90      95
Ser His Val Pro
      100

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<210> 29
 <211> 100
 <212> PRT
 <213> Mus musculus

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<400> 29
Asp Ala Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
      1      5      10      15
Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Glu Asn Ser
      20      25      30
Asn Gly Asn Thr Tyr Leu Asn Trp Tyr Leu Gln Lys Pro Gly Gln Ser
      35      40      45
Pro Gln Leu Leu Ile Tyr Arg Val Ser Asn Arg Phe Ser Gly Val Leu
      50      55      60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
      65      70      75      80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Phe Cys Leu Gln Val
      85      90      95
Thr His Val Pro
      100

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<210> 30
 <211> 100
 <212> PRT
 <213> Mus musculus

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<400> 30
Asp Val Leu Leu Thr Gln Thr Pro Leu Phe Leu Pro Val Ser Leu Gly
      1      5      10      15
Asp Gln Ala Ser Ile Ser Cys Ser Ser Ser Gln Ser Leu Val His Ser
      20      25      30
Asn Gly Asn Tyr Tyr Leu Glu Trp His Leu Gln Lys Ser Gly Gln Ser
      35      40      45
Leu Gln Leu Leu Ile Tyr Glu Val Ser Lys Arg His Ser Gly Val Pro
      50      55      60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
      65      70      75      80
Ser Arg Val Glu Pro Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
      85      90      95
Thr His Leu Pro
      100

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<210> 31
 <211> 100

<212> PRT

<213> Mus musculus

<400> 31

Asp	Ile	Val	Met	Thr	Gln	Ala	Ala	Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser
		20						25					30		
Ser	Gly	Asn	Thr	Tyr	Leu	Tyr	Trp	Phe	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Tyr	Ile	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
				85					90					95	
Leu	Glu	Tyr	Pro												
			100												

<210> 32

<211> 100

<212> PRT

<213> Mus musculus

<400> 32

Asp	Ile	Val	Ile	Thr	Gln	Asp	Glu	Leu	Ser	Asn	Pro	Val	Thr	Ser	Gly
1				5					10					15	
Glu	Ser	Val	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	Tyr	Lys
		20						25					30		
Asp	Gly	Lys	Thr	Tyr	Leu	Asn	Trp	Phe	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Met	Ser	Thr	Arg	Ala	Ser	Gly	Val	Ser
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Glu	Ile
65					70					75					80
Ser	Arg	Val	Lys	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Gln	Gln	Leu
				85					90					95	
Val	Glu	Tyr	Pro												
			100												

<210> 33

<211> 100

<212> PRT

<213> Mus musculus

<400> 33

Asp	Ile	Val	Met	Thr	Gln	Ala	Ala	Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser
		20						25					30		
Asn	Gly	Ile	Thr	Tyr	Leu	Tyr	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile
65					70					75					80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ala Gln Asn
85 90 95
Leu Glu Leu Pro
100

<210> 34
<211> 101
<212> PRT
<213> Mus musculus

<400> 34
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Lys Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Arg Ile Arg Thr Lys Asn Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Tyr Thr Ile Ser Arg Asp Asp Ser Glu Ser Met
65 70 75 80
Leu Phe Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met Tyr
85 90 95
Tyr Cys Val Thr Phe
100

<210> 35
<211> 100
<212> PRT
<213> Mus musculus

<400> 35
Glu Val Gln Leu Val Glu Val Trp Trp Arg Met Val Gln Pro Lys Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Thr Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ala Arg Ile Arg Ser Lys Ser Ser Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser Met
65 70 75 80
Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met Tyr
85 90 95
Tyr Cys Val Ile
100

<210> 36
<211> 100
<212> PRT
<213> Mus musculus

<400> 36
Glu Val Lys Leu Glu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Met Lys Leu Ser Cys Val Ala Ser Gly Phe Thr Phe Ser Asn Tyr
20 25 30

14/40

Trp	Met	Ser	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Gly	Leu	Glu	Trp	Val
	35						40					45			
Ala	Gln	Ile	Arg	Leu	Lys	Ser	Asp	Asn	Tyr	Ala	Thr	His	Tyr	Ala	Glu
	50					55					60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Ser	Ser
65					70					75					80
Val	Tyr	Leu	Gln	Met	Asn	Asn	Leu	Arg	Ala	Glu	Asp	Thr	Gly	Ile	Tyr
				85					90					95	
Tyr	Cys	Thr	Gly												
			100												

<210> 37
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 37

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Thr	Ser	Gly	Phe	Thr	Phe	Thr	Asp	Tyr
		20						25					30		
Tyr	Met	Ser	Trp	Val	Arg	Gln	Pro	Pro	Gly	Lys	Ala	Leu	Glu	Trp	Leu
	35						40					45			
Gly	Phe	Ile	Arg	Asn	Lys	Ala	Asn	Gly	Tyr	Thr	Thr	Glu	Tyr	Ser	Ala
	50					55					60				
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Gln	Ser	Ile
65					70					75					80
Leu	Tyr	Leu	Gln	Met	Asn	Thr	Leu	Arg	Ala	Glu	Asp	Ser	Ala	Thr	Tyr
				85					90					95	
Tyr	Cys	Ala	Arg												
			100												

<210> 38
 <211> 98
 <212> PRT
 <213> Mus musculus

<400> 38

Glu	Val	Lys	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Lys	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
		20						25					30		
Thr	Met	Ser	Trp	Val	Arg	Gln	Ser	Pro	Glu	Lys	Arg	Leu	Glu	Trp	Val
	35						40					45			
Ala	Thr	Ile	Ser	Ser	Gly	Gly	Ser	Tyr	Thr	Tyr	Tyr	Pro	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Thr	Leu	Tyr
65					70					75					80
Leu	Gln	Met	Ser	Ser	Leu	Lys	Ser	Glu	Asp	Thr	Ala	Met	Tyr	Tyr	Cys
				85					90					95	
Thr	Arg														

<210> 39
 <211> 98
 <212> PRT
 <213> Mus musculus

15/40

<400> 39

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Asp Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1      5      10      15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
      20      25      30
Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
      35      40      45
Ala Thr Ile Ser Ser Gly Gly Ser Tyr Thr Tyr Tyr Pro Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65      70      75      80
Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys
      85      90      95
Thr Arg

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<210> 40

<211> 98

<212> PRT

<213> Mus musculus

<220>

<221> VARIANT

<222> (1)...(98)

<223> Xaa = Any Amino Acid

<400> 40

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Glu Leu Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1      5      10      15
Ser Arg Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
      20      25      30
Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
      35      40      45
Ala Ala Ile Ser Thr Asp Gly Ser Phe Ile Tyr Xaa Pro Asp Thr Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe
65      70      75      80
Leu Gln Met Ser Ser Leu Arg Tyr Glu Asp Thr Ala Met Tyr Tyr Cys
      85      90      95
Leu Arg

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<210> 41

<211> 98

<212> PRT

<213> Mus musculus

<400> 41

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Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1      5      10      15
Ser Leu Lys Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Asp Tyr
      20      25      30
Tyr Met Tyr Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
      35      40      45
Ala Tyr Ile Ser Asn Gly Gly Gly Ser Thr Tyr Tyr Pro Asp Thr Val
      50      55      60

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Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Ser Arg Leu Lys Ser Glu Asp Thr Ala Met Tyr Tyr Cys
 85 90 95
 Ala Arg

<210> 42
 <211> 101
 <212> PRT
 <213> Mus musculus

<400> 42
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Ala
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ser Ser Gly Phe Thr Phe Thr Asp Tyr
 20 25 30
 Tyr Met Asn Trp Val His Arg Pro Pro Gly Lys Pro Leu Glu Trp Leu
 35 40 45
 Ala Leu Ile Arg Asn Lys Ala Asn Gly Tyr Ile Thr Glu Tyr Ser Ala
 50 55 60
 Ser Met Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Gln Ser Ile
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Thr Leu Ser Thr Glu Asp Ser Ala Thr Tyr
 85 90 95
 Tyr Cys Ala Arg Asp
 100

<210> 43
 <211> 100
 <212> PRT
 <213> Mus musculus

<400> 43
 Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Asp Phe
 20 25 30
 Tyr Met Glu Trp Val Arg Gln Pro Pro Gly Lys Arg Leu Glu Trp Ile
 35 40 45
 Ala Ala Ser Arg Asn Lys Ala Asn Asp Tyr Thr Thr Glu Tyr Ser Ala
 50 55 60
 Ser Val Lys Gly Arg Phe Ile Val Ser Arg Asp Thr Ser Gln Ser Ile
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Ala Leu Arg Ala Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Ala Arg
 100

<210> 44
 <211> 98
 <212> PRT
 <213> Mus musculus

<400> 44
 Glu Val Met Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15

Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45
Ala Thr Ile Ser Ser Gly Gly Gly Asn Thr Tyr Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Asn Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Leu Tyr Tyr Cys
85 90 95
Ala Arg

<210> 45
<211> 98
<212> PRT
<213> Mus musculus

<400> 45
Glu Val Lys Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Thr Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Gly Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45
Ala Thr Ile Ser Gly Gly Gly Ser Tyr Thr Tyr Tyr Pro Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Asn Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Leu Tyr Tyr Cys
85 90 95
Ala Arg

<210> 46
<211> 101
<212> PRT
<213> Mus musculus

<400> 46
Glu Val Lys Leu Met Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Ala
1 5 10 15
Ser Leu Arg Leu Ser Cys Glu Ala Ser Gly Phe Thr Phe Thr Asp Tyr
20 25 30
Tyr Met Ser Trp Val Arg Gln Leu Pro Arg Lys Ser Pro Glu Trp Leu
35 40 45
Ala Leu Ile Arg Asn Lys Ala Asn Gly Tyr Thr Thr Glu Tyr Ser Ala
50 55 60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Gln Asn Ile
65 70 75 80
Leu Tyr Leu Gln Met Asn Thr Leu Arg Ala Glu Ala Ser Ala Thr Tyr
85 90 95
Tyr Cys Ala Lys Asp
100

<210> 47
<211> 98

Gly 1	Leu	Val	Lys	Pro 5	Gly	Gly	Ser	Leu	Lys 10	Leu	Ser	Cys	Ala	Ala 15	Ser
Gly	Phe	Thr	Phe 20	Ser	Ser	Tyr	Ala	Met 25	Ser	Trp	Val	Arg	Gln 30	Thr	Pro
Glu	Lys	Arg 35	Leu	Glu	Trp	Val	Ala 40	Thr	Ile	Ser	Ser	Gly 45	Gly	Ser	Tyr
Thr	Tyr 50	Tyr	Pro	Asp	Ser	Val 55	Lys	Gly	Arg	Phe	Thr 60	Ile	Ser	Arg	Asp
Asn 65	Ala	Lys	Asn	Thr	Leu 70	Tyr	Leu	Gln	Met	Ser 75	Ser	Leu	Arg	Ser	Glu 80
Asp	Thr	Ala	Met	Tyr 85	Tyr	Cys	Ala	Arg							

<210> 50
 <211> 89
 <212> PRT
 <213> Mus musculus

<400> 50
 Gly Leu Val Gln Pro Gly Gly Ser Arg Lys Leu Ser Cys Ala Ala Ser
 1 5 10 15
 Gly Phe Thr Phe Ser Ser Phe Gly Met His Trp Val Arg Gln Ala Pro
 20 25 30
 Glu Lys Gly Leu Glu Trp Val Ala Tyr Ile Ser Ser Gly Ser Ser Thr
 35 40 45
 Ile Tyr Tyr Ala Asp Thr Val Lys Gly Arg Phe Thr Ile Ser Arg Asp
 50 55 60
 Asn Pro Lys Asn Thr Leu Phe Leu Gln Met Thr Ser Leu Arg Ser Glu
 65 70 75 80
 Asp Thr Ala Met Tyr Tyr Cys Ala Arg
 85

<210> 51
 <211> 88
 <212> PRT
 <213> Mus musculus

<400> 51
 Gly Leu Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser
 1 5 10 15
 Gly Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Thr Pro
 20 25 30
 Glu Lys Arg Leu Glu Trp Val Ala Ser Ile Ser Ser Gly Gly Ser Thr
 35 40 45
 Tyr Tyr Pro Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 50 55 60
 Ala Arg Asn Ile Leu Tyr Leu Gln Met Ser Ser Leu Arg Ser Glu Asp
 65 70 75 80
 Thr Ala Met Tyr Tyr Cys Ala Arg
 85

<210> 52
 <211> 98
 <212> PRT
 <213> Mus musculus

<400> 52
 Glu Val Lys Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Asn Leu Ser Cys Ala Ala Ser Gly Phe Asp Phe Ser Arg Tyr
 20 25 30
 Trp Met Ser Trp Ala Arg Gln Ala Pro Gly Lys Gly Gln Glu Trp Ile
 35 40 45
 Gly Glu Ile Asn Pro Gly Ser Ser Thr Ile Asn Tyr Thr Pro Ser Leu
 50 55 60
 Lys Asp Lys Phe Ile Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Ser Lys Val Arg Ser Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Ala Arg

<210> 53
 <211> 87
 <212> PRT
 <213> Mus musculus

<400> 53
 Val Lys Pro Gly Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe
 1 5 10 15
 Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg Gln Thr Pro Glu Lys
 20 25 30
 Arg Leu Glu Trp Val Ala Tyr Ile Ser Asn Gly Gly Gly Ser Thr Tyr
 35 40 45
 Tyr Pro Asp Thr Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala
 50 55 60
 Lys Asn Thr Leu Tyr Leu Gln Met Ser Ser Leu Lys Ser Glu Asp Thr
 65 70 75 80
 Ala Met Tyr Tyr Cys Ala Arg
 85

<210> 54
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 54
 Asp Ile Gln Leu Thr Gln Ser Pro Leu Thr Leu Ser Val Thr Ile Gly
 1 5 10 15
 Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
 20 25 30
 Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
 35 40 45
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Asp Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95
 Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 55
 <211> 112
 <212> PRT
 <213> Homo sapiens

<400> 55
 Asp Val Val Leu Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
 1 5 10 15
 Gln Pro Ala Ser Ile Ser Cys Arg Ser Asp Gln Ser Leu Val Tyr Ser
 20 25 30
 Asp Gly Lys Thr Tyr Leu Asn Trp Tyr Gln Gln Arg Pro Gly Gln Ser
 35 40 45
 Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Asp Ser Gly Val Pro
 50 55 60

Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Glu	Ile
65					70				75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
				85					90					95	
Thr	His	Trp	Pro	Gly	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
			100					105					110		

<210> 56
<211> 112
<212> PRT
<213> Homo sapiens

<400> 56

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5				10						15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	Tyr	Ser
			20					25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70				75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
				85					90					95	
Thr	His	Trp	Ser	Trp	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
			100					105					110		

<210> 57
<211> 112
<212> PRT
<213> Homo sapiens

<400> 57

Asp	Val	Val	Val	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5				10						15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Leu	Ser	Leu	Val	Asp	Ser
			20					25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Gln	Leu	Ser	Ser	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70				75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
				85					90					95	
Thr	His	Trp	Pro	Ile	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	Lys
			100					105					110		

<210> 58
<211> 112
<212> PRT
<213> Homo sapiens

<400> 58

Asp	Ile	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5				10						15	

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Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Gly	Leu	Val	Tyr	Ser
			20					25					30		
Asp	Gly	Asp	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Gly	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
			85						90					95	
Thr	His	Trp	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 59

<211> 111

<212> PRT

<213> Homo sapiens

<400> 59

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
			85						90					95	
Thr	His	Trp	Pro	Phe	Thr	Phe	Gly	Gln	Gly	Thr	Arg	Leu	Glu	Ile	
			100					105					110		

<210> 60

<211> 112

<212> PRT

<213> Homo sapiens

<400> 60

Ala	Glu	Glu	Leu	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Leu	Leu	Ser
			20					25					30		
Asp	Gly	Asp	Thr	Tyr	Leu	Asn	Trp	Tyr	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
			85						90					95	
Ala	His	Trp	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 61

<211> 112

<212> PRT

<213> Homo sapiens

<400> 61

Asp	Val	Val	Leu	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Ser	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Thr	Gln	Ile	Leu	Val	Phe	Ser
		20						25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Thr	Pro	Gly	His	Ser
	35					40					45				
Pro	Arg	Arg	Leu	Ile	Tyr	Arg	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50				55					60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
			85					90					95		
Thr	His	Trp	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 62

<211> 112

<212> PRT

<213> Homo sapiens

<400> 62

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	Phe	Ser
		20						25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
	35					40					45				
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50				55					60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Ile	Tyr	Tyr	Cys	Met	Gln	Gly
			85					90					95		
Ala	His	Trp	Pro	Leu	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Thr
			100					105					110		

<210> 63

<211> 113

<212> PRT

<213> Homo sapiens

<400> 63

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20						25					30		
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
	35					40					45				
Pro	Arg	Arg	Leu	Ile	Tyr	Arg	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50				55					60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	

Ser Arg Val Glu Ala Glu Asp Val Gly Leu Tyr Tyr Cys Met Gln His
85 90 95
Thr His Trp Ser Pro Ile Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile
100 105 110
Lys

<210> 64
<211> 113
<212> PRT
<213> Homo sapiens

<400> 64
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
20 25 30
Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro
35 40 45
Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser
85 90 95
Val Gln Leu Pro Arg Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile
100 105 110
Lys

<210> 65
<211> 113
<212> PRT
<213> Homo sapiens

<400> 65
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Ser Val Thr Pro Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
20 25 30
Asp Gly Lys Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Pro
35 40 45
Pro Gln Leu Leu Ile Tyr Glu Val Ser Asn Arg Phe Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser
85 90 95
Ile Gln Leu Pro Arg Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile
100 105 110
Lys

<210> 66
<211> 112
<212> PRT
<213> Homo sapiens

25/40

<400> 66

Ala	Glu	Glu	Leu	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	Tyr	Ser
		20						25				30			
Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55				60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Gly
			85					90					95		
Thr	His	Trp	Pro	Lys	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
			100					105					110		

<210> 67

<211> 112

<212> PRT

<213> Homo sapiens

<400> 67

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Gln	Ser	Ala	Ser	Ile	Ser	Cys	Thr	Ser	Ser	Gln	Ser	Leu	Val	Tyr	Thr
		20						25				30			
Asp	Gly	Lys	Ile	Tyr	Leu	Asn	Trp	Phe	Gln	Gln	Arg	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Arg	Arg	Leu	Ile	Phe	Lys	Val	Ser	Asn	Arg	Asp	Ser	Gly	Val	Pro
	50					55				60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Ala	Ile	Tyr	Tyr	Cys	Met	Gln	Gly
			85					90					95		
Thr	His	Trp	Pro	Gly	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
			100					105					110		

<210> 68

<211> 113

<212> PRT

<213> Homo sapiens

<400> 68

Asp	Ile	Val	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5					10					15	
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
		20						25				30			
Gly	Asp	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Tyr	Leu	Gln	Lys	Ala	Gly	Gln
		35					40				45				
Ser	Pro	Gln	Leu	Leu	Ile	Tyr	Thr	Leu	Ser	Tyr	Arg	Ala	Ser	Gly	Val
	50					55				60					
Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys
65				70					75					80	
Ile	Ser	Arg	Val	Gln	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln
			85					90					95		
Arg	Leu	Glu	Ile	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile
			100					105					110		

Arg

<210> 69
<211> 112
<212> PRT
<213> Homo sapiens

<400> 69
Asp Ile Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Arg Gly Leu Val His Ser
20 25 30
Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45
Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Ala Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ser
85 90 95
Ile His Trp Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105 110

<210> 70
<211> 112
<212> PRT
<213> Homo sapiens

<400> 70
Asp Ile Val Leu Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Asn Leu Val Tyr Ser
20 25 30
Asp Gly Asn Thr Tyr Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45
Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Asp Ser Gly Val Pro
50 55 60
Asp Ser Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln Gly
85 90 95
Thr Arg Trp Pro Tyr Thr Phe Gly Glu Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 71
<211> 127
<212> PRT
<213> Homo sapiens

<400> 71
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Ser
20 25 30
Thr Met His Trp Val Arg Gln Ala Ser Gly Lys Gly Leu Glu Trp Val
35 40 45

27/40

Gly	Arg	Ile	Arg	Asn	Lys	Asp	Asn	Ser	Tyr	Ala	Thr	Ala	Tyr	Ala	Ala
50						55				60					
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Ser	Glu	Asn	Thr	
65					70				75					80	
Ala	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Lys	Ile	Glu	Asp	Thr	Ala	Val	Tyr
				85				90						95	
Tyr	Cys	Thr	Arg	Gly	Ser	Ser	Met	Val	Arg	Gly	Val	Asn	Gly	Tyr	Tyr
			100				105					110			
Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser	
		115					120					125			

<210> 72

<211> 126

<212> PRT

<213> Homo sapiens

<400> 72

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Ile	Phe	Ser	Asp	Tyr
			20					25					30		
Tyr	Met	Asp	Trp	Val	Arg	Gln	Ala	Pro	Ala	Lys	Gly	Leu	Glu	Trp	Leu
		35				40						45			
Ala	Arg	Thr	Arg	Asn	Lys	Ala	Asn	Ser	Tyr	Thr	Thr	Glu	Tyr	Ala	Ala
	50				55					60					
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Met	Asn	Ser
65				70					75					80	
Leu	Ser	Leu	Gln	Met	Asn	Ser	Leu	Lys	Thr	Glu	Asp	Thr	Ala	Ile	Tyr
			85					90						95	
Tyr	Cys	Val	Cys	Val	Arg	Thr	Asp	Cys	Ser	Ser	Thr	Arg	Cys	His	Gly
		100					105					110			
Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser		
		115					120					125			

<210> 73

<211> 126

<212> PRT

<213> Homo sapiens

<400> 73

Glu	Val	Gln	Leu	Val	Asp	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asp	His
			20					25					30		
Tyr	Met	Asp	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35				40						45			
Gly	Arg	Ile	Arg	Asn	Lys	Ala	Asn	Ser	Tyr	Thr	Thr	Glu	Tyr	Ala	Ala
	50				55					60					
Ser	Leu	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Glu	Asn	Ser
65				70					75					80	
Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Lys	Thr	Glu	Asp	Thr	Ala	Val	Tyr
			85					90						95	
Tyr	Cys	Ala	Arg	Ala	Glu	Thr	Asp	Arg	Gly	Tyr	Tyr	Tyr	Tyr	His	Gly
		100					105					110			
Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser		
		115					120					125			

<210> 74
<211> 126
<212> PRT
<213> Homo sapiens

<400> 74
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Lys Val Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Ser
20 25 30
Ala Met His Trp Val Arg Gln Ala Ser Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Arg Ser Lys Ala Asn Ser Tyr Ala Thr Ala Tyr Ala Ala
50 55 60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Arg Trp Val Leu Gly Arg Gly Ser Glu Gly His Tyr Tyr
100 105 110
Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 75
<211> 115
<212> PRT
<213> Homo sapiens

<400> 75
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Gly Ser
20 25 30
Ala Ile His Trp Val Arg Gln Ala Ser Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly His Ile Arg Asn Lys Pro Asn Asn Tyr Ala Thr Ala Tyr Ala Ala
50 55 60
Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Ala Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Ala Ser Gly Ser Tyr Leu Lys Gly Gln Gly Thr Leu Val Thr
100 105 110
Val Ser Ser
115

<210> 76
<211> 125
<212> PRT
<213> Homo sapiens

<400> 76
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30

Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
	35					40						45			
Ser	Ala	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70					75					80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Lys	Asp	Ile	Glu	Asp	Thr	Ala	Met	Phe	Pro	Tyr	Tyr	Tyr	Gly	Met
			100					105					110		
Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser			
		115					120					125			

<210> 77
<211> 128
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(128)
<223> Xaa = Any Amino Acid

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
			35				40					45			
Ser	Ala	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70					75					80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Lys	Asp	Arg	Arg	Asn	Tyr	Asp	Phe	Trp	Ser	Gly	Xaa	Tyr	Tyr	Tyr
			100					105					110		
Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser
		115					120					125			

<210> 78
<211> 128
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(128)
<223> Xaa = Any Amino Acid

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Gln	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Asn	Asn	Tyr
			20					25					30		

Val Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Val Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Phe
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Gly Arg Val Cys Ser Gly Gly Arg Cys Tyr Pro Xaa Tyr Tyr
100 105 110
Tyr Tyr Met Asp Val Trp Gly Lys Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 79
<211> 128
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)...(128)
<223> Xaa = Any Amino Acid

<400> 79
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95
Ala Lys Asp Arg Arg Asn Tyr Asp Phe Trp Ser Gly Xaa Tyr Tyr Tyr
100 105 110
Tyr Gly Met Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
115 120 125

<210> 80
<211> 116
<212> PRT
<213> Homo sapiens

<400> 80
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

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Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Ala	Lys	Asp	Lys	Gly	Ser	Gly	Trp	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val
			100					105					110		
Thr	Val	Ser	Ser												
			115												

<210> 81
 <211> 124
 <212> PRT
 <213> Homo sapiens

<400> 81

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35				40						45			
Ser	Gly	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50				55						60				
Glu	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75						80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Asn	Asp	Tyr	Tyr	Gly	Ser	Gly	Arg	Tyr	Phe	Thr	Tyr	Ala	Thr	Asp
			100					105					110		
Val	Trp	Gly	Gln	Gly	Thr	Thr	Val	Thr	Val	Ser	Ser				
		115					120								

<210> 82
 <211> 123
 <212> PRT
 <213> Homo sapiens

<400> 82

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35				40						45			
Ser	Ala	Ile	Ser	Gly	Ser	Gly	Tyr	Thr	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50				55						60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75						80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Lys	Lys	Pro	Gly	Asp	Tyr	Gly	Ser	Gly	Ser	Tyr	Tyr	Leu	Asp	Tyr
			100					105					110		
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser					
		115					120								

<210> 83
 <211> 117
 <212> PRT
 <213> Homo sapiens

<400> 83

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Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Arg
 1      5      10      15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
      20      25      30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
      65      70      75      80
Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr Tyr Cys
      85      90      95
Thr Thr Tyr Tyr Gly Asp Gly Met Asp Val Trp Gly Lys Gly Thr Met
      100      105      110
Ile Thr Val Ser Ser
      115

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<210> 84

<211> 125

<212> PRT

<213> Homo sapiens

<400> 84

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1      5      10      15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Thr Tyr
      20      25      30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
      65      70      75      80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
      85      90      95
Ala Lys Ala Val Val Arg Gly Val Ile Ser Tyr Tyr Tyr Tyr Gly Met
      100      105      110
Asp Val Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser
      115      120      125

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<210> 85

<211> 120

<212> PRT

<213> Homo sapiens

<400> 85

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Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1      5      10      15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
      20      25      30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
      65      70      75      80

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33/40

Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Lys	Ser	Pro	Asp	Val	Val	Val	Pro	Ala	Ala	Asp	Tyr	Trp	Gly	Gln
			100					105					110		
Gly	Thr	Leu	Val	Thr	Val	Ser	Ser								
		115					120								

<210> 86
 <211> 128
 <212> PRT
 <213> Homo sapiens

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Lys	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Ile	Phe	Ser	Thr	Gly
			20					25					30		
Trp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Gly	Arg	Ile	Lys	Ser	Lys	Thr	Asp	Gly	Gly	Thr	Ile	Asp	Tyr	Ala	Glu
	50					55					60				
Pro	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Asn	Thr
65					70					75					80
Leu	Phe	Leu	Gln	Met	Asn	Ser	Leu	Lys	Thr	Glu	Asp	Thr	Ala	Val	Tyr
				85					90					95	
Tyr	Cys	Thr	Thr	Ala	Leu	Thr	Arg	Tyr	Phe	Phe	Asp	Ser	Ser	Gly	Tyr
			100					105					110		
Pro	His	Phe	Asp	His	Trp	Gly	His	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
		115					120						125		

<210> 87
 <211> 127
 <212> PRT
 <213> Homo sapiens

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ser	Ala	Ile	Ser	Gly	Ser	Asp	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50					55					60				
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70					75					80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Lys	Asp	Arg	Thr	Pro	Arg	Asn	Ile	Val	Ala	Thr	Lys	Gly	Met	Asp
			100					105					110		
Ala	Phe	Asp	Ile	Trp	Gly	Gln	Gly	Thr	Met	Val	Thr	Val	Ser	Ser	
		115					120						125		

<210> 88
 <211> 119
 <212> PRT
 <213> Homo sapiens

<400> 88

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Arg
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Asp	Asp	Tyr
			20					25					30		
Ala	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ser	Gly	Ile	Ser	Trp	Asn	Ser	Gly	Ser	Ile	Gly	Tyr	Ala	Asp	Ser	Val
	50				55					60					
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Ser	Leu	Tyr
65					70				75						80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Leu	Tyr	Tyr	Cys
			85						90					95	
Ala	Thr	His	Tyr	Tyr	Tyr	Tyr	Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly
			100					105					110		
Thr	Thr	Val	Thr	Val	Ser	Ser									
			115												

<210> 89

<211> 124

<212> PRT

<213> Homo sapiens

<400> 89

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Ser	Tyr
			20					25					30		
Ala	Met	Ser	Trp	Val	His	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Ala	Ala	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Thr	Tyr	Tyr	Ala	Asp	Ser	Val
	50				55					60					
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75						80
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85						90					95	
Ala	Arg	Gly	Trp	Gly	Leu	Arg	Gly	Glu	Gly	Asp	Tyr	Tyr	Met	Asp	
			100					105				110			
Val	Trp	Gly	Lys	Gly	Thr	Met	Val	Thr	Val	Ser	Ser				
			115				120								

<210> 90

<211> 124

<212> PRT

<213> Homo sapiens

<400> 90

Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Lys	Pro	Gly	Gly
1				5					10					15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Asn	Ala
			20					25					30		
Trp	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35					40					45			
Gly	Arg	Ile	Lys	Ser	Lys	Thr	Asp	Gly	Gly	Thr	Thr	Asp	Tyr	Ala	Ala
	50				55					60					
Pro	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asp	Ser	Lys	Asn	Thr
65					70				75						80

35/40

```

Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
      85      90      95
Tyr Cys Thr Thr Pro His Thr Phe Gly Gly Val Ile Val Ile Ser Asp
      100      105      110
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
      115      120

```

<210> 91
 <211> 123
 <212> PRT
 <213> Homo sapiens

```

<400> 91
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Arg Gly
 1      5      10      15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Ala
      20      25      30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
      50      55      60
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
      65      70      75      80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
      85      90      95
Tyr Cys Thr Thr Ala Ser Tyr Ser Tyr Gly Arg Gly Cys Phe Asp Tyr
      100      105      110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
      115      120

```

<210> 92
 <211> 121
 <212> PRT
 <213> Homo sapiens

```

<400> 92
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1      5      10      15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
      20      25      30
Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
      65      70      75      80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
      85      90      95
Ala Lys Asp Ile Ser Trp Gly Asp Leu Glu Gly Leu Asp Tyr Trp Gly
      100      105      110
Gln Gly Thr Leu Val Thr Val Ser Ser
      115      120

```

<210> 93
 <211> 119
 <212> PRT
 <213> Homo sapiens

<400> 93
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Ala
20 25 30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
50 55 60
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Asp Ser Leu Pro Pro His Arg Val Trp Gly Gln Gly
100 105 110
Thr Leu Val Thr Val Ser Ser
115

<210> 94
<211> 123
<212> PRT
<213> Homo sapiens

<400> 94
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Ala
20 25 30
Trp Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Lys Ser Lys Thr Asp Gly Gly Thr Thr Asp Tyr Ala Ala
50 55 60
Pro Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Ser Ile Pro Gly Ile Ala Val Ala Gly Thr Asp Tyr
100 105 110
Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 95
<211> 426
<212> DNA
<213> Mus musculus

<400> 95
atgaagttgc ctgttaggct gttggtgctc tggattcggg agacaatcgg cgatgttggtg 60
atgaccaga ctccactcac tttgtcgggt accgttggac acccagcctc catctcttg 120
aagtcaagtc agagcctctt agatagtgat ggaaagacat ttttgaattg gttgttacag 180
aggccaggcc agtctccaaa gcgcctaatac tatctggtgt ctaaaactgga ctctggagtc 240
cctgacaggt tcaactggcag tggatcaggg acagatttca cactgaaaaat cagcagagtg 300
gaggctgagg atttgggagt ttattattgc tggcaaggta cacattttcc gtacacgttc 360
ggagggggga ccaagctgga aataaaacgg gctgatgctg caccaactgt atccatcttc 420
ccacca 426

<210> 96

<211> 443
 <212> DNA
 <213> Mus musculus

<400> 96
 atggacttcg ggttaaaactt ggttttcttt gttgtttttt atcaagggtg gcattgtgag 60
 gtgcagcttg ttgagtctgg aggaggattg gtgcagccta aagggtcatt gaaactctca 120
 tgtgcagcct ctggattcag cttcaatgcc tacgccatga actgggtccg ccaggctcca 180
 ggaaagggtt tggaatgggt tgctcgcata agaactaaaa ataataatta tgcaacatat 240
 tatgccgatt cagtgaaaaga cagatacacc atctccagag atgattcaga aagtatgctc 300
 tttctgcaaa tgaacaactt gaaaactgag gacacagcca tgtattactg tgtgaccttt 360
 tacggtaacg gtgtctgggg cacagggacc acggtcaccg tctcctcagc caaaacaaca 420
 gccccatccg tctatcccct ggt 443

<210> 97
 <211> 357
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Humanized heavy chain

<400> 97
 gaggtgcaat tggttgagtc tggaggagga ttggtgaagc ctgggggggtc attgagactc 60
 tcatgtgcag cctctggatt cactttcagt gcctacgcca tgaactgggt ccgccaggct 120
 ccaggaaagg gtttggaatg ggttggccgc ataagaacta aaaataataa ttatgcaaca 180
 tattatgccg attcagtgaag agacagattc accatctcca gagatgattc aaaaaacacg 240
 ctctatctgc aaatgaacag cttgaaaact gaggacacag ccgtgtatta ctgtaccacc 300
 ttttacggtg acggtgtctg gggccagggg accctgggtca ccgtcagctc agccaaa 357

<210> 98
 <211> 344
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Humanized light chain

<400> 98
 ctacgtagtg atgacccagt ctccactctc cttgcccgtt acccttggac agccagcctc 60
 catctcttgc aagtcaagtc agagcctctt agatagtgat ggaaagacat ttttgaattg 120
 gtttcagcag aggccaggcc agtctccaag gcgcctaadc tatctgggtg ctaaactgga 180
 ctctggagtc cctgacaggc tcagcggcag tggatcaggg acagatttca cactgaaaat 240
 cagcagagtg gaggctgagg atgttggagt ttattattgc tggcaaggta cacattttcc 300
 gtacacgttc ggacaaggga cccgactgga aataaaacgt acgg 344

<210> 99
 <211> 443
 <212> DNA
 <213> Mus musculus

<400> 99
 accaggggat agacggatgg ggctgttgtt ttggctgagg agacggtgac cgtggtcctt 60
 gtgccccaga caccgttacc gtaaaagggt acacagtaat acatggctgt gtcctcagtt 120
 ttcaagttgt tcatattgcag aaagagcata ctttctgaat catctctgga gatgggtgat 180
 ctgtctttca ctgaatcggc ataatatgtt gcataattat tatttttagt tcttatgcga 240
 gcaaccatt ccaaaccctt tcctggagcc tggcggaccc agttcatggc gtaggcattg 300

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aagctgaatc cagaggctgc acatgagagt ttcaatgacc ctttaggctg caccaatcct 360
cctccagact caacaagctg cacctcaciaa tgcacacctt gataaaaaaac aacaaagaaa 420
accaagttta acccgaagtc cat 443
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<210> 100
<211> 148
<212> PRT
<213> Mus musculus

<400> 100
Met Asp Phe Gly Leu Asn Leu Val Phe Phe Val Val Phe Tyr Gln Gly
1 5 10 15
Val His Cys Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Gln
20 25 30
Pro Lys Gly Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe
35 40 45
Asn Ala Tyr Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50 55 60
Glu Trp Val Ala Arg Ile Arg Thr Lys Asn Asn Tyr Ala Thr Tyr
65 70 75 80
Tyr Ala Asp Ser Val Lys Asp Arg Tyr Thr Ile Ser Arg Asp Asp Ser
85 90 95
Glu Ser Met Leu Phe Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr
100 105 110
Ala Met Tyr Tyr Cys Val Thr Phe Tyr Gly Asn Gly Val Trp Gly Thr
115 120 125
Gly Thr Thr Val Thr Val Ser Ser Ala Lys Thr Thr Ala Pro Ser Val
130 135 140
Tyr Pro Leu Val
145

<210> 101
<211> 426
<212> DNA
<213> Mus musculus

<400> 101
tgggtggaag atggatacag ttggtgcagc atcagcccgt tttattttcca gcttggtccc 60
ccctccgaac gtgtacggaa aatgtgtacc ttgccagcaa taataaaactc ccaaatectc 120
agcctccact ctgctgattt tcagtgtgaa atctgtccct gatccactgc cagtgaacct 180
gtcagggact ccagagtcca gtttagacac cagatagatt aggcgctttg gagactggcc 240
tggcctctgt aacaaccaat tcaaaaatgt ctttccatca ctatctaaga ggctctgact 300
tgacttgcaa gagatggagg ctgggtgtcc aacggtaacc gacaaagtga gtggagtctg 360
ggcatcaca acatcgccga ttgtctcccg aatccagagc accaacagcc taacaggcaa 420
cttcat 426

<210> 102
<211> 142
<212> PRT
<213> Mus musculus

<400> 102
Met Lys Leu Pro Val Arg Leu Leu Val Leu Trp Ile Arg Glu Thr Ile
1 5 10 15
Gly Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Val
20 25 30

Gly His Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp
35 40 45
Ser Asp Gly Lys Thr Phe Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln
50 55 60
Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val
65 70 75 80
Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys
85 90 95
Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln
100 105 110
Gly Thr His Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile
115 120 125
Lys Arg Ala Asp Ala Ala Pro Thr Val Ser Ile Phe Pro Pro
130 135 140

<210> 103
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Humanized heavy chain

<400> 103
tttggctgag ctgacggtga ccaggggtccc ctggccccag acaccgttac cgtaaaaggt 60
ggtacagtaa tacacggctg tgtcctcagt tttcaagctg ttcatttgca gatagagcgt 120
gttttttgaa tcatctctgg agatgggtgaa tctgtctttc actgaatcgg cataatatgt 180
tgcataatta ttatttttag ttcttatgcg gccaaacccat tccaaaccct ttcctggagc 240
ctggcggacc cagttcatgg cgtaggcact gaaagtgaat ccagaggctg cacatgagag 300
tctcaatgac cccccaggct tcaccaatcc tcctccagac tcaaccaatt gcacctc 357

<210> 104
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized heavy chain

<400> 104
Glu Val Gln Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ala Tyr
20 25 30
Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Gly Arg Ile Arg Thr Lys Asn Asn Asn Tyr Ala Thr Tyr Tyr Ala Asp
50 55 60
Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Lys Asn Thr
65 70 75 80
Leu Tyr Leu Gln Met Asn Ser Leu Lys Thr Glu Asp Thr Ala Val Tyr
85 90 95
Tyr Cys Thr Thr Phe Tyr Gly Asn Gly Val Trp Gly Gln Gly Thr Leu
100 105 110
Val Thr Val Ser Ser Ala Lys
115

<210> 105
<211> 344
<212> DNA
<213> Artificial Sequence

<220>
<223> Humanized light chain

<400> 105
ccgtacgttt tatttccagt cgggtccctt gtccgaacgt gtacggaaaa tgtgtacctt 60
gccagcaata ataaactcca acatcctcag cctccactct gctgattttc agtgtgaaat 120
ctgtccctga tccactgccg ctgaacctgt cagggactcc agagtccagt ttagacacca 180
gatagattag gcgccttgga gactggcctg gcctctgctg aaaccaattc aaaaatgtct 240
ttccatcact atctaagagg ctctgacttg acttgcaaga gatggaggct ggctgtccaa 300
gggtaacggg caaggagagt ggagactggg tcatcactac gtag 344

<210> 106
<211> 114
<212> PRT
<213> Artificial Sequence

<220>
<223> Humanized light chain

<400> 106
Tyr Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Leu Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30
Asp Gly Lys Thr Phe Leu Asn Trp Phe Gln Gln Arg Pro Gly Gln Ser
35 40 45
Pro Arg Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Trp Gln Gly
85 90 95
Thr His Phe Pro Tyr Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
100 105 110
Arg Thr